SECRET

SR-71

23 July 1965

MEMORANDUM FOR THE RECORD

SUBJECT: Visit to Wright-Patterson Air Force Base, Dayton, Ohio

1. On 9 July 1965 Mr. [redacted] of the Development Branch 25X1
25X1 and Mr. [redacted] of the Plans Branch, Plans and Development Staff visited Wright-Patterson Air Force Base for the purpose of learning the present status of the Data Block System to be utilized in the SR-71 sensors. Present for the discussions were
25X1 [redacted] Reconnaissance Project Officer in the SR-71 Special Project Office (SPO); [redacted] and 25X1
25X1 [redacted] is assigned to camera systems while [redacted] is assigned to Navigation Systems. 25X1

[redacted] 25X1

3. The SR-71 will utilize the [redacted] Data Block Printer 25X1 at contact size which will eliminate some of the present problems associated with the DOD Data Block such as skewing and light intensities. An attempt will be made to place the Binary Data
25X1 Block in [redacted]
25X1 [redacted] due to space requirements for installation. Certain changes in the DOD Data Block information presentation was suggested which if approved will enhance the exploitation of this material. This added information can in all but one case be located in spaces not now being used. A frame indicator would replace the detachment and squadron information now shown in the third line of the Data Block. Other information it is hoped will be added to the Data Block includes; operating mode, cage indicator, camera lens pointing angle and

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V/H factor in milliradients by whole numbers. [redacted] 25X1
information in the DOD Data Block may be misleading in the SR-71 due to the fact that it is a manual operation for the pilot and once taken it repeats this altitude on the data block until the pilot again takes a reading. Since such a repeat reading would possibly be a false altitude indication, it was suggested that rather than mislead the P.I., it would be preferred to leave this section of the Data Block blank.

25X1

[redacted]
Development Branch, P&DS

25X1

[redacted]
Plans Branch, P&DS

Attachment
25X1 Memo of Visit - [redacted] dated 9 July 1965, w/attachment.

Distribution:
Orig. - Circulate P&DS/File Trip Report File
1 - SR-71 File/P&DS/PB
1 - IPD
1 - TID
1 - DOD Data Block File/P&DS/PB
25X1 1 - [redacted]/Dev. Br.
1 - Chrono/P&DS/PB

SECRET

9 July 1965

25X1 MEMO FOR RECORD (FILE: R&D)

Subject: Customer Requirements for Annotated Data

1. On this date, we met with two men of the Customer's Office to discuss the Code Matrix Block (CMB) of MIL-STD-782A, "Tactical Reconnaissance Data Marking", as it applies to our system. The meeting was quite fruitful and produced some information useful to us.

2. Although the visitors felt that the Standard data would be very helpful, they had thoughts on those items of data which would be more helpful to them. It is good that most of the items they feel to be desirable are already available somewhere within the air vehicle or the sensors, which means that we might be able to satisfy their requirements with only small additional effort.

3. As a result of specific questions posed to the visitors; we learned these facts:

a. Storage and retrieval: The Customer does not presently use film chips for storage of intelligence film, nor is there expectation that film chips will come into use within the next several years. At present the storage of original negative (ON) material is in rolls with average length of 250' and it is likely that the ON's from our vehicle will be stored similarly.

25X1

d. Present Data: The Customer feels that certain items of data presently in the cameras and other sensors may be retained, and that some may or should be removed. To be retained should be the frame counters, sensor serial numbers, lens serial numbers, and CFL numbers, where they exist, while the clocks, the write-in data cards, and other items of data not mentioned should be removed.

e. Additional Data: The Customer feels, again as we do, that the CMB should include some additional items for information not presently readily available in the air vehicle or the sensors: pointing angle indication, frame count indication, V/H ratio, cage indication, and operating mode (these are covered in more detail below).

25X1

6. The frame count appears to be an important item of information for the Customer, especially since the ON is filed in complete rolls, for the number forms part of the accession number, with the balance being the sortie number and date. As noted above, the Customer suggests that the analog presentation of frame count be retained where it already exists: if this is done, then the binary frame count indication must be matched to the analog presentation, to preclude confusion in reading. It remains to be seen what the final disposition of the analog frame count mechanism will be; however, the requirement for binary presentation of frame count is firm.

25X1

8. Two items which should go into the optional spaces of the CMB are "Cage Indication" and "Operating Mode". The cage indication would be useful in cases where the vehicle maneuvers cause the sensor to operate against the stops. The presentation would be one-digit indication of the "go-no-go" type. The operating mode would be applicable to those sensors in which more than one mode of operation was selectable, for example:

a. TROC: 55% overlap or 10% overlap.

b. OOC: No mode selection is available.

c. TEOC: Mode 1, Mode 2, or Mode 3.

25X1

The signal for this indication could be generated externally to the sensor and inserted at the appropriate place in the CMB.

9. One final item of "new" data is that of the "Sensor Identity". There has been some discussion of the usefulness of this item of information and the manner in which it should be presented. The Standard specifies three characters for the presentation, which apparently presupposes a universal coding system. The Customer will look into the subject further, for he has several other systems in which the CMB is used, and it appears that he would be the most logical assignor of codes to be used.

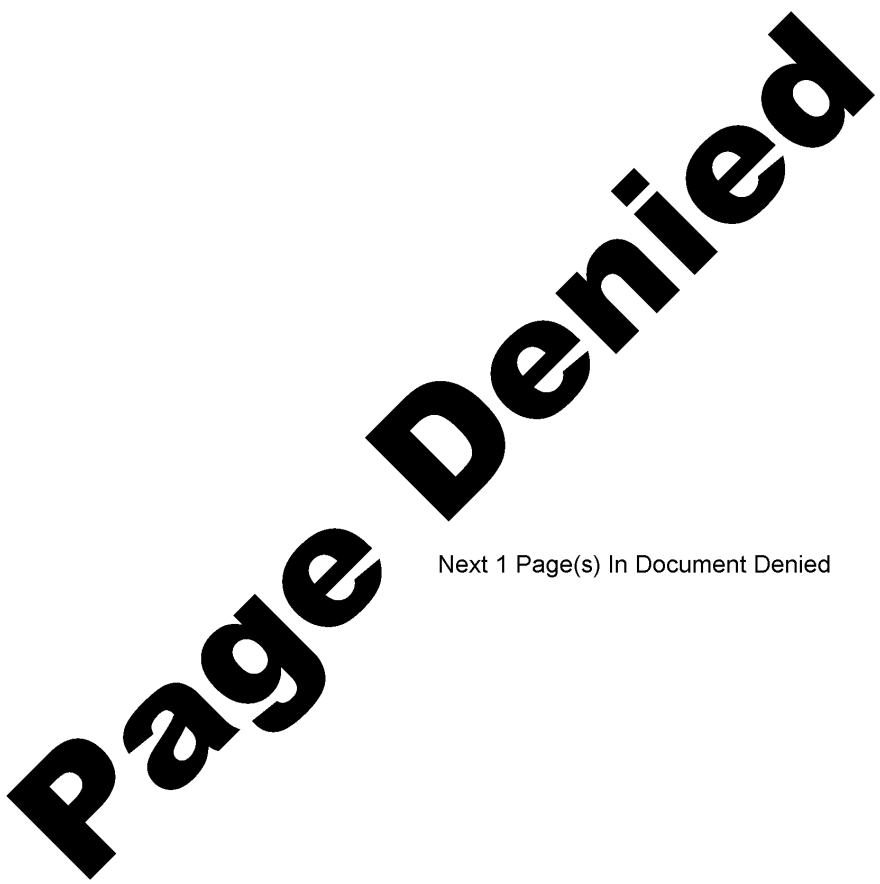
10. The Standard is quite specific on the matter of positioning of the CMB relative to the frame of photography, the reason being to assure compatibility with the automatic reading devices. If the needs of this Customer are to be the criterion, then we can assume much greater flexibility in the positioning of the CMB recording head, for the Customer currently has under development an automatic reader which is quite versatile. The reading head can be positioned any where within an envelope with a 9 inch travel across the film, and a 5 inch travel along the film, both of which should accommodate the positioning which will probably dictated by existing configurations of our sensors. A very important facet of the Customer's operation is the manner in which the automatic reader is used; the Standard presupposes that a reader is used for search or for some other purpose which requires the CMB to be at the leading edge of the frame of photography; the Customer is unconcerned with the relative position of the CMB since the proper sequential position is all that is required. The CMB is used primarily to present information through the reader onto a magnetic tape for ultimate computer use. All in all, then, it appears that we have had a severe constraint removed from the installation requirements for the recording head.

11. Speaking of tapes, the Customer made a point which is not germane to the problem at hand, but it will require action at some time. The Customer has use for the mission recording tapes (or extracted portions of the tapes) for use in evaluation of the imagery. The evaluation is made only when the imagery is less than specification quality, or when serious degradation is present. In those instances when the imagery is completely acceptable, the mission recorder tape is not used; the decision lies with the Customer, though, so the tape must be supplied.

12. In summary, we now have sufficient information on which to take a stand for the format to be imprinted on the several sensor films. The first attachment presents, in tabular form, those items of information which are suggested and desired by the Customer, with indications of which are already available and those which must yet be made available. The second attachment depicts a recommended arrangement for the several items which must appear within the CMB. It may be noted that maximum usage is made of the spaces which alrea[illegible]ich are for optional use. Only one item is recommende[illegible]withdrawal from the CMB, and that is the "Detachment and Squad[illegible]", for it was the joint opinion of the Customer and of the SPO that [illegible]tem is probably the least important of all on the format.

LARRY R.

2 Atch
1. Data Tabulation
2. CMB Format



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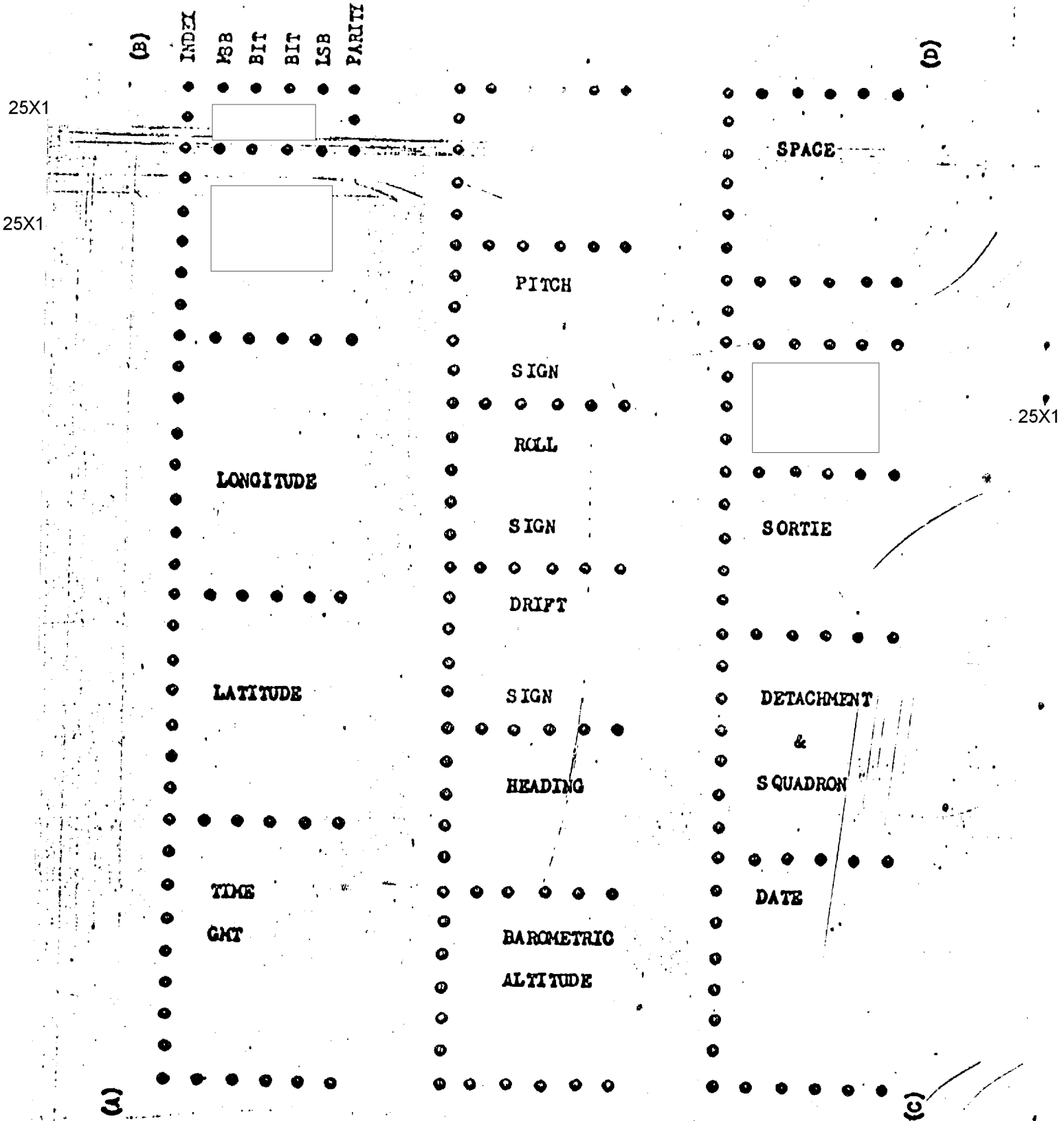
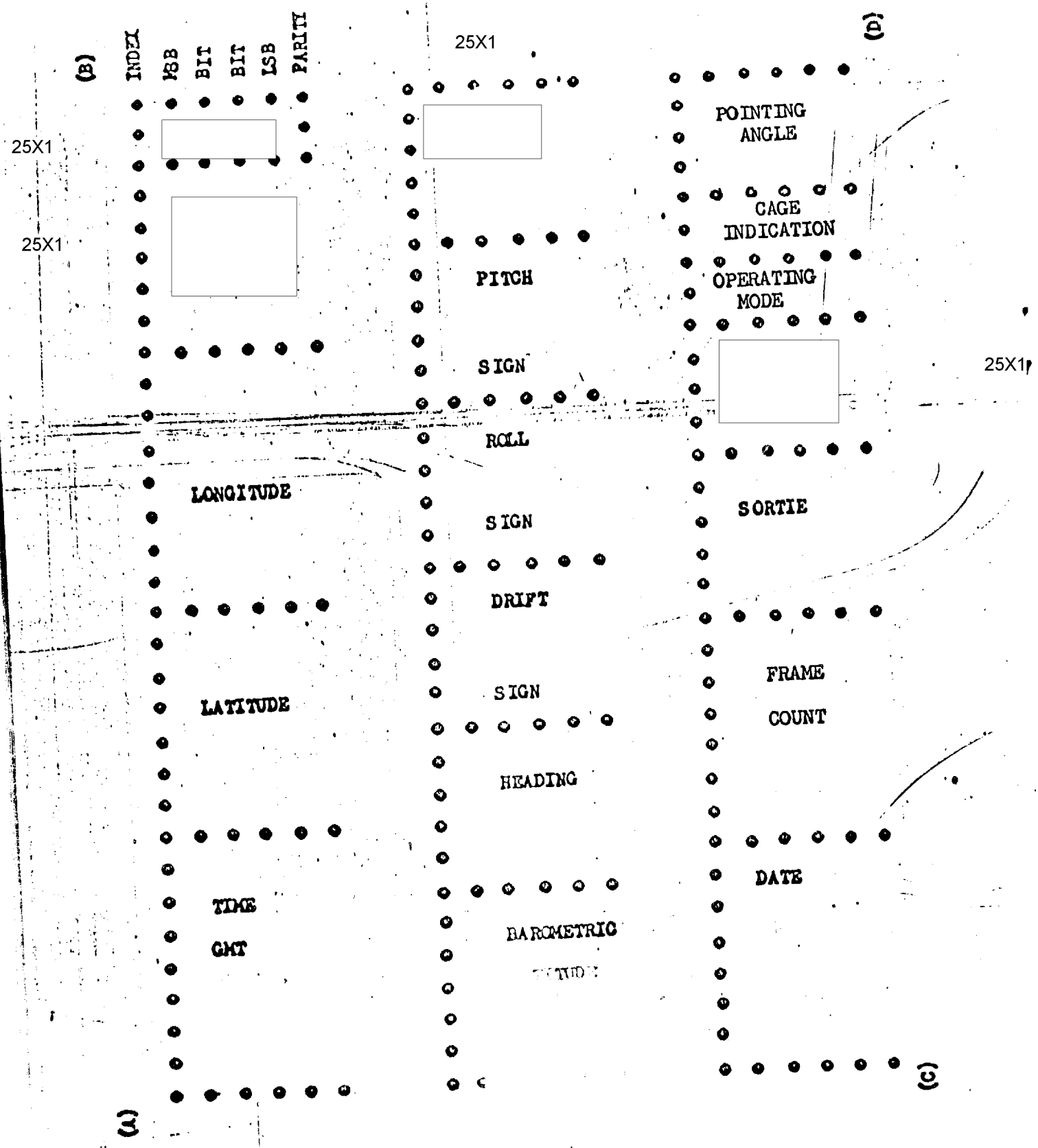
CODED DATA MATRIX BLOCK



CMB FORMAT (MIL-STD-782 Version)

CODED DATA MATRIX BLOCK



CMD FORMAT (Proposed Version)

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SEC. CL.	ORIGIN		CONTROL NO.
TS (B)	TDS/TPS/		BYE 50132-67

DATE OF DOC	DATE REC'D	DATE OUT	SUSPENSE DATE	CROSS REFERENCE OR POINT OF FILING
21 Mar	20 Apr 67			

TO See Distribution
FROM Chief, TPS/TDS
SUBJ. SR-71 Data Block

Copy #8

ROUTING	DATE SENT
	4/24/67

COURIER NO.	ANSWERED	NO REPLY	
			1

25X1